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Research and Analysis Branch

R & A Report No. 2960.4

# EUROPEAN AXIS MANPOWER SUMMARY: THE GERMAN ARMED FORCES AND SATELLITE FORCES

## Description

Analyses of various aspects of the manpower position of the German Armed Forces and European Axis satellite forces.

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NOTE

The European Axis Manpower Summary consists of five parts, issued separately. These are:

R&A Report No. 2960.1 The Over-all Manpower Position

R&A Report No. 2960.2 Interest Groups in Germany

R&A Report No. 2960.3 German Population Development and Vital Statistics

R&A Report No. 2960.4 The German Armed Forces and Satellite Forces

R&A Report No. 2960.5 The German Civilian Labor Force

The reader is referred to the parts of this series other than the present one for analyses of the subjects indicated.

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# EUROPEAN AXIS MANPOWER SUMMARY: THE GERMAN ARMED FORCES AND SATELLITE FORCES

## I. INTRODUCTION

The following paper considers various aspects of the military-manpower position of Germany and its satellites to January 1945. The first section below presents summary estimates of the actual strength of the German Armed Forces; the following three sections consider prescribed and actual strength of the German Army and their inter-relation; subsequently, German divisional strength by types, and by theater of operations, satellite divisional strength, permanent losses in the German Armed Forces, and age-distribution of dead in the German Ground Forces are treated. The relevant estimates are presented in tabular form and are discussed in the accompanying text.

## II. ACTUAL STRENGTH, LOSSES, AND MOBILIZATION OF THE GERMAN ARMED FORCES, 1939-45

Table 1 on the following page summarizes estimates of strength, losses, and mobilization in the German Army (including Waffen SS), Navy, and Airforce. The figure for actual strength of the Armed Forces in May 1939 is drawn from the German census of that month. It is estimated that on 31 December 1944 the actual strength of the Army was 4,200,000, the Airforce 1,250,000 and the Navy 200,000, giving a total Armed-Forces strength of 5,650,000, inclusive of some 800,000 foreigners but exclusive of the Volkssturm, Reichsarbeitsdienst,

(RAD) and other paramilitary organizations.

No direct evidence for the magnitude of recruitment is available. The recruitment shown in the following table is a residual from estimates of strength and losses on successive dates.

Table 1. ACTUAL STRENGTH, LOSSES, AND MOBILIZATION OF THE GERMAN ARMED FORCES, 1939-45

(In millions of men)

| Breakdown | Details (1) | Totals (2) |
|---|---|---|
| A. Actual strength, May 1939 | - | 1.70 |
| B. Recruitment, May 1939-June 1941 | +8.42 | - |
| C. Permanent losses, May 1939-June 1941 | - .32 | - |
| D. Net change, May 1939-June 1941 | - | 8.10 |
| E. Actual strength, June 1941 | - | 9.80 |
| F. Recruitment, June 1941-January 1945 | +3.94 | - |
| G. Permanent losses, June 1941-January 1945 | -8.09 | - |
| H. Net change, June 1941-January 1945 | - | 4.15 |
| I. Actual strength, 31 December 1945 | - | 5.65 |
| J. Permanent losses, May 1939-January 1945 | 8.41 | - |
| K. Recruitment, May 1939-January 1945 | 12.36 | - |

## III. PRESCRIBED AND ACTUAL STRENGTH OF THE GERMAN ARMY, 1939-45

Table 2 on the following page presents estimates of the prescribed and actual strength of the German Army from

1939 to 1945.

Estimates of prescribed strength under A, (4) - (7) in Table 2 are based on the identification of individual units in the German Army. For those types of units comprising the bulk of the strength of the German Army, good information on number and type of units and on prescribed strength by type of unit is available. The estimate of total prescribed strength is thus firmly based.

Table 2. PRESCRIBED AND ACTUAL STRENGTH OF THE GERMAN ARMY, 1939-45.

(In millions of men)

| Breakdown | September 1939 | June 1940 | June 1941 | June 1942 | June 1943 | June 1944 | January 1945 |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| A. Prescribed Strength | 3.2 | 5.1 | 6.5 | 6.8 | 6.7 | 5.6 | 5.3 |
| B. Actual Strength | 4.0 | 5.5 | 7.2 | 6.8 | 6.3 | 5.3 | 4.2 |

It is believed that prescribed strength was an adequate rough measure of the actual strength of the German Army through the fall of 1942. While the German Army had already suffered heavy losses on the Eastern Front, its replacement-training system was evidently functioning so as to meet the personnel needs of the first year of warfare against the Soviet Union.

The Caucasus campaign in late 1942, the heavy losses at Stalingrad, and the Tunisian debacle in early 1943 over-

taxed the replacement-training system: as a result actual strength began to fall below prescribed strength. Because of this divergence between actual and prescribed strength, there has been a continuous downward revision of prescribed strength. The High Command in a document dated 1 October 1943 called for a radical downward revision in the T/O of infantry, mountain, and light divisions, comprising some three-fourths of German first-line divisional strength. In the case of infantry divisions this change involved a reduction in prescribed strength from 17,000 to 13,000 men. A later version of the "New Type" infantry division laid down by the October decree was introduced in the spring of 1944. This was known as the "Infantry Division Type 1944" and differed from its predecessor only in minor organizational changes: the over-all prescribed strength remained at approximately 13,000. The Grenadier and Volksgrenadier Divisions which appeared in mid-summer 1944 showed another substantial drop in prescribed strength with only 10,500 men per division. Infantry divisions formed or reconstituted since that time have almost invariably been organized along the lines of the Volksgrenadier Division. Further revisions in prescribed strength are reliably reported, the latest being an Infantry Division 45 which appears to approximate the Volksgrenadier Division organization with some slight increases where the latter was found to be tactically deficient. The prescribed strength of the Infantry Division 45

is estimated to be about 11,000 men.

Other first-line units have received new and lower Tables of Organization during the past year, although the changes have not been so frequent or so drastic as they were in the case of infantry divisions. The "1944" type Panzer division has a prescribed strength of 14,000, approximately 2,000 less than the earlier armored divisions, and captured documents indicate that a similar revision in T/O strength has been made in the case of Panzer Grenadier divisions.

Estimates of actual strength in B (6) and (7) are based on an analysis of intelligence from all active fronts.

## IV. PRESCRIBED STRENGTH OF THE GERMAN ARMY, 1 JANUARY 1945

Table 3 on the following page shows the units of the German Army and their prescribed strength as of 1 January 1945. Except for Panzer and Panzer Grenadier Divisions, no distinction is made between SS and regular Wehrmacht units, since in the past year divisions of the SS have tended more and more to conform to the T/O's for corresponding Army units. SS Panzer and Panzer Grenadier Divisions however have in the past had a considerably higher establishment strength than similar units in the regular Army and, for lack of evidence to the contrary, it is assumed that this relationship still exists.

Prescribed-strength figures used in this estimate have been in effect long enough to allow reorganization of prac-

Table 3. PRESCRIBED STRENGTH OF THE GERMAN ARMY, 1 JANUARY 1945

| | Type of Unit | Number of Units (1) | Prescribed Strength (2) | Total Strength (3) |
|---|---|---|---|---|
| I | Divisions | | | |
| | A. SS Panzer | 7 | 16,000 | 112,000 |
| | B. SS Motorized | 6 | 16,000 | 96,000 |
| | C. Panzer | 26 | 14,000 | 364,000 |
| | D. Motorized | 10 | 14,000 | 140,000 |
| | E. Mountain | 13 | 16,000 | 208,000 |
| | F. Light | 12 | 13,000 | 156,000 |
| | G. Parachute | 7 | 16,000 | 112,000 |
| | H. Cavalry | 2 | 14,000 | 28,000 |
| | I. Infantry, Type 1944 | 83 | 13,000 | 1,079,000 |
| | J. Grendier and Volks-grenadier | 51 | 10,500 | 535,500 |
| | K. Limited Employment Infantry | 44 | 10,000 | 440,000 |
| | L. Other Second-line | 26 | 10,000 | 260,000 |
| | M. Total | 287 | | 3,530,500 |
| II | Non-divisional Field Units | | | |
| | N. Army Group | 11 | 1,000 | 11,000 |
| | O. Army | 22 | 30,435 | 669,570 |
| | P. Offensive Corps | 83 | 4,385 | 363,955 |
| | Q. Defensive Corps | 6 | 1,500 | 9,000 |
| | R. Field GHQ Total | | | 1,053,525 |
| III | GHQ and Other Units in Germany | | | |
| | S. Administrative GHQ | | | 500,000 |
| | T. Divisions Forming or Refitting | | | 200,000 |
| IV | Total German Army | | | 5,284,025 |

E (2). A "1944" type T/O for mountain divisions has been laid down, but details on the new establishment are not yet available. The present prescribed strength figure may, therefore, be an overestimate by approximately 3,000.
O (2), P (2), and Q (2). MIRS/APPREC 145/44, 16 February 1944.

tically all of the divisions in each category. Infantry Division 45 which may well supersede Infantry Division 44 as standard for field infantry in the near future is not shown in the following table. It is believed to be too recent to have affected any sizeable portion of German infantry divisions as of 1 January 1945.

For several of the less common types of units, such as parachute and cavalry divisions, no complete and up-to-date T/Os are available. In such cases, estimates of prescribed strength are based on what is known about component parts, equipment, etc. As new information turns up it may be necessary to revise these estimates, but the total number of units involved is so small that such changes cannot materially affect the total strength figure.

## V. ACTUAL STRENGTH OF THE GERMAN ARMY, 1 JANUARY 1945

An analysis of intelligence reports from the various fronts indicates that the actual strength of the German Army on 1 January 1945 is 4.2 million men. Good recent information on German strength in the West is now available from such sources as SHAEF, HQ Twelfth Army Group, HQ Sixth Army Group, HQ Seventh Army, and other field reports. From these accounts it is possible to get a fairly accurate picture of the actual strength on that front.

The estimate of actual strength on the Eastern Front

is based on a report of 1 September 1944 from the Soviet General Staff, giving the average strength of German divisions as 8,000 men, including divisional services. While it is probable that the strength of the average German division on the Eastern Front has declined in the intervening months, no comparable information of a more recent date has become available. The present estimate for actual strength on the Eastern Front should, therefore, be considered a maximum figure.

Of the one million men in Germany half are in administrative GHQ units. The other 500,000 include 200,000 men in divisions forming or refitting and 300,000 convalescents in the hospital pool.

Table 4. PRESCRIBED AND ACTUAL STRENGTH OF THE GERMAN ARMY BY THEATER, 1 JANUARY 1945

| From | Prescribed Strength | Actual Strength |
|---|---|---|
| Eastern Front | 2,574,200 | 1,850,000 |
| Western Front | 1,251,670 | 750,000 |
| Italy | 436,180 | 350,000 |
| Norway | 237,090 | 200,000 |
| Germany | 716,000 | 1,000,000 |
| Elsewhere (or unlocated) | 68,885 | 50,000 |
| | 5,284,025 | 4,200,000 |

## VI. GERMAN DIVISIONAL STRENGTH BY TYPES, 1939-45

Table 5 on the following page presents estimates of German divisional strength by types from 1939 to 1945.

Changes in the number of German divisions since June 1943 should not be interpreted as reflecting changes in the numerical strength of the German Army. The substantial reduction of divisional T/O's shows that January 1945 units cannot be equated in strength with those of 1943. Unqualified use of German order of battle figures in terms of divisional units as a measure of strength is a dangerous procedure.

The apparent reversal of the trend toward an increase in the number of second-line units shown in the most recent estimate must also be treated with caution. The effects of the downward revision of prescribed strength have been concentrated on first-line divisions to such a point that it is now difficult to distinguish between first-line and second-line infantry divisions. The figure of C (7) in Table 5 includes some 51 divisions of the Grenadier or Volksgrenadier type. In spite of their obvious limitations, these units have played the role of first-line infantry. In the December German offensive on the Western Front, for instance, the infantry divisions used were almost exclusively Volksgrenadier.

Table 5. GERMAN DIVISIONAL STRENGTH BY TYPES, 1939-45

| Type | September 1939 (1) | June 1940 (2) | June 1941 (3) | June 1942 (4) | June 1943 (5) | June 1944 (6) | January 1945 (7) |
|---|---|---|---|---|---|---|---|
| A. Panzer | 9 | 14 | 20 | 25 | 32 | 32 | 33 |
| B. Motorized | 12 | 15 | 20 | 21 | 19 | 14 | 16 |
| C. First-line Infantry | 85 | 150 | 180 | 179 | 160 | 167 | 168 |
| D. Second-line | 44 | 61 | 80 | 75 | 79 | 100 | 70 |
| E. Total | 150 | 240 | 300 | 300 | 290 | 313 | 287 |

B. In columns 1 through 5 Panzer Grenadier and light divisions are classed together as "motorized." In columns 6 and 7 "motorized" refers to Panzer Grenadier divisions only. Light divisions are classified as infantry.

## VII. GERMAN DIVISIONAL STRENGTH BY THEATER OF OPERATIONS, 1939-45

The January 1945 alignment of divisions by front shows the many changes made by Soviet advances since June 1944. German forces had evacuated Finland, and the Norwegian garrison, doubled by the influx of these troops, had already begun to ship its surplus divisions to other theaters. The Soviet advance into the Balkans, together with the capitulation of Rumania and Bulgaria, necessitated a realignment of German forces in southeastern Europe, involving withdrawal from the former satellite countries and the evacuation of Greece, Albania, and southern Yugoslavia. With the exception of small garrison forces still holding out in the Aegean Islands,

the divisions formerly in the Balkan theater were by the end of 1944 considered part of the Eastern Front.

The Western Allies in January 1945 were engaging a total of 108 German divisions, an increase of 66 over the June 1943 figure. This represents a real increase in strength, although divisions are not strictly comparable in the two periods. In June 1943 only 20 percent of the enemy's Panzer and motorized strength was located in Western Europe: at present 40 percent of Germany's Panzer and Panzer Grenadier divisions are committed on the Western Front and in Italy.

German divisional strength by theaters of operation, 1939-45 is shown in Table 6 on the following page.

VIII. AXIS SATELLITE DIVISIONAL STRENGTH, 1941-45

Table 7 on the second page following presents estimates of European Axis satellite divisional strength from 1941 to January 1945.

This table clearly reflects the losses the enemy has suffered in the second half of 1944. While the satellite armies were never a very real addition to Germany's offensive power, they looked well on paper, and their defection is a severe blow to morale in the Reich. Finland, Rumania, and Bulgaria, with a combined total of approximately sixty divisions, have capitulated and are now opposing their former ally. Even Hungary, the one remaining satellite of any con-

Table 6. GERMAN DIVISIONAL STRENGTH, BY THEATER OF OPERATIONS, 1939-45

| Area | September 1939 (1) | June 1940 (2) | June 1941 (3) | June 1942 (4) | June 1943 (5) | June 1944 (6) | January 1945 (7) |
|---|---|---|---|---|---|---|---|
| A. Eastern Front | - | - | 170 | 190 | 200 | 175 | 159 |
| B. Finland | - | - | - | 12 | 7 | 7 | - |
| C. Norway | - | 15 | 10 | 10 | 10 | 9 | 15 |
| D. Denmark | - | 5 | 2 | 2 | 3 | 5 | 3 |
| E. France and Low Countries | - | 80 | 38 | 35 | 39 | 61 | 79 |
| F. Bohemia-Moravia | 6 | 4 | 4 | 4 | 4 | - | - |
| G. Balkans | - | 24 | 24 | 8 | 15 | 23 | 1 |
| H. North Africa | - | 3 | 3 | 3 | - | - | - |
| I. Poland | 70 | 20 | 10 | 10 | 3 | 6 | - |
| J. Germany | 74 | 89 | 26 | 26 | 6 | 1 | 1 |
| K. Italy | - | - | - | - | 3 | 26 | 27 |
| L. Unlocated | - | - | - | - | - | - | 2 |
| M. Total | 150 | 240 | 300 | 300 | 290 | 313 | 287 |

Estimates of the disposition of German divisions under A-M, (4) - (7) are based on the identification of individual units. Estimates for the earlier period are based in part on identification of individual units and in part on global estimates from intelligence sources.

E (7). Includes fortress garrisons on the French Coast and Channel Islands.

F (6), (7). Forces in Bohemia-Moravia are no longer shown in a separate estimate, but are included with the estimate for Germany.

I (7). No separate estimate is given for German forces in Poland since they are included in the total for the Eastern Front.

J (7). Divisions believed to be reforming in Germany are excluded from this divisional count.

Table 7. EUROPEAN AXIS SATELLITE DIVISIONAL STRENGTH, 1941-45

(In number of divisions)

| Country | June 1941 (1) | June 1942 (2) | June 1943 (3) | June 1944 (4) | January 1945 (5) |
|---|---|---|---|---|---|
| A. Rumania | 15 | 25 | 24 | 26 | - |
| B. Hungary | 15 | 27 | 27 | 37 | 23 |
| C. Bulgaria | 15 | 18 | 20 | 25 | - |
| D. Finland | 19 | 14 | 14 | 14 | - |
| E. Slovakia | 3 | 3 | 3 | 4 | - |
| F. Croatia | - | 3 | 8 | 4 | 4 |
| G. Italian Fascist | 70 | 85 | 73 | 3 | 5 |
| H. Total | 137 | 175 | 169 | 113 | 32 |

sequence, was partially overrun by 1 January 1945. The Hungarian forces were rent by disaffection, and were either bottled up in Budapest, or, in the case of those that escaped to the West, were completely dependent on German organization and supply.

Care must be taken in interpreting the figures in the above table. Most of the countries listed have several types of divisions varying in T/O strength, equipment, and combat efficiency, and divisions of one country are not directly comparable with those of any other country. In other words, there is no "standard" division. Further, in the case of Italian and Croat forces, divisional figures do not give a

complete picture, since both these countries have many units of non-divisional status which perform line-of-communication, coast-defense and other rear-area duties. No Slovak divisions are shown in Table 7 and it is believed that none exist at present. The Germans disbanded and "reorganized" Slovak forces after the uprising of September 1944. It is believed that the reorganized Slovak Army consists of small units, such as the labor and supply battalions in Italy, rather than whole divisions. In any case the force is a small one.

## IX. PERMANENT LOSSES IN THE GERMAN ARMED FORCES TO 31 DECEMBER 1944

Table 8 on the following page presents estimates of permanent losses in the German Armed Forces, 1 September 1939 to 31 December 1944. It is there indicated that by 31 December 1944 the German Armed Forces had suffered some 8,409,000 permanent losses, including killed, missing dead, prisoners, wounded discharged as unfit, and non-battle wastage. Of this total 92 percent were borne by the Army and the bulk of the remainder by the Airforce. Permanent losses resulting from sickness and injuries are estimated to have been responsible for 14 percent of all permanent losses.

Battle losses suffered prior to the attack on the Soviet Union were slight. From the German invasion of the Soviet Union to the Allied landings in France in June 1944, approximately 94 percent of all German battle losses were

(Text continued on p. 19)

Table 8. PERMANENT LOSSES IN THE GERMAN ARMED FORCES, 1 SEPTEMBER 1939 TO 31 DECEMBER 1944

(In thousands of men)

| | 1 Sept. 1939 to 21 June 1941 (1) | 22 June 1941 to 30 June 1943 (2) | 1 July 1943 to 31 May 1944 (3) | 1 June 1944 to 31 Dec. 1944 (4) | Total (5) |
|---|---|---|---|---|---|
| I. Army | | | | | |
| Permanent Battle Losses | | | | | |
| A. Killed | 59 | 1,737 | 768 | 510 | 3,074 |
| B. Missing dead | 21 | 625 | 277 | 181 | 1,104 |
| C. Prisoners of war | -- | 330 | 220 | 1,154 | 1,704 |
| D. Unfit for further service | 18 | 574 | 254 | 165 | 1,011 |
| E. Total | 98 | 3,266 | 1,519 | 2,010 | 6,893 |
| Permanent Non-battle Losses | | | | | |
| F. Deaths | 37 | 72 | 35 | 14 | 158 |
| G. Unfit for further service | 173 | 333 | 167 | 65 | 738 |
| H. Total | 210 | 405 | 202 | 79 | 896 |
| Total permanent losses | 308 | 3,671 | 1,721 | 2,089 | 7,789 |
| II. Airforce | | | | | |
| I. Permanent Battle Losses | | | | | 278 |
| J. Permanent Non-battle Losses | | | | | 201 |
| K. Total | | | | | 479 |
| III. Navy | | | | | |
| L. Permanent Battle Losses | | | | | 76 |
| M. Permanent Non-battle Losses | | | | | 65 |
| N. Total | | | | | 141 |
| IV. Total Armed Forces | | | | | |
| O. Permanent Battle Losses | | | | | 7,247 |
| P. Permanent Non-battle Losses | | | | | 1,162 |
| Q. Total | | | | | 8,409 |

NOTES TO TABLE 8

Line and column

A-1 This estimate is based on official German communiques.

A-2 and 3 This figure is based on an estimate of the number of German officers killed, derived from a study of officers' obituaries published in a sample of German newspapers. An estimate of the number of non-commissioned officers and privates killed is derived from the estimated number of officers killed on the basis of information as to (1) the ratio of the number of officers to other ranks in the German Army, and (2) the relationship between the death rate of officers and other ranks. On the assumption that officers constitute 3.5 percent of total strength and that their death rate from battle causes is 1.3 times as great as the battle death rate for other ranks, it is estimated that for every officer killed there are 21.2 other ranks killed.

A-4 For the months of June, July and August 1944 the method outlined above was used. Beginning with September 1944 and the large-scale curtailment of the German press, the sample of German newspapers could no longer be related to the total newspaper population, and therefore the method outlined above was no longer usable. An estimate of killed in the last four months of 1944 was obtained from ground intelligence reports for the Western and Italian fronts expanded to cover all fronts on the basis of the distribution by front of obituaries for dead in the German Army.

B-1 through 4 The number of missing, but in fact dead, has been estimated at 36 percent of the number killed. This percentage is based on German experience in the World War (Sanitaetsbericht ueber das Deutsche Heer im Weltkriege 1914-1918, Vol. III).

C-2 through 4 According to official reports to the War Department, the Western Allies alone have taken 1,062,000 prisoners. It is estimated, on the basis of an analysis of German and Soviet communiques, that

| Line and column | |
|---|---|
| | the Soviet armies have taken a minimum of 688,000 prisoners. The total of 1,750,000 includes 12,000 Airforce prisoners (included in item I-5) and 34,000 Navy prisoners (included in item L-5) captured since the beginning of June 1944. |
| D-1 through 4 | The estimate of the number discharged as unfit because of wounds is based on the experience of the German Army in the World War. The ratio of wounded to killed plus missing dead was 3.2 to 1, and 7.6 percent of all wounded were discharged as unfit for further military service (Sanitaetsbericht, Vol. III). |
| F-1 | Based on strength figures for the German Army and an estimated death rate of 4.6 per 1000 per year for all non-battle causes. Rate derived by Office of the Surgeon General. |
| F-2 through 4 | Same as F-1, except that for the five winter months, November through March,1941-42 and 1942-43, a death rate of 9.2 per 1000 per year has been used for troops on the Eastern Front. |
| G-1 | Based on strength figures for the German Army and an estimated unfitness rate of 20.9 per thousand per year. Rate derived by Office of the Surgeon General. |
| G-2 through 4 | Same as G-1, except that for the five winter months, November through March, 1941-42 and 1942-43, an unfitness rate of 41.8 per thousand per year has been used for troops on the Eastern Front. |
| I-5 | Extension of RAF estimate accepted at the CIC Conference of December 1943 on German Manpower. |
| J-5 | For air crews and air ground crews a normal non-battle loss rate of 15 per thousand per year, based on RAF experience in this war, was used. This rate was doubled for that portion of the GAF in Russia during the five winter months. Flak personnel was treated in the same fashion as the army. |
| L-5 | Extension of British Admiralty estimate accepted |

| Line and column | |
|---|---|
| | at the CIC Conference of December 1943 on German Manpower. |
| M-5 | A non-battle loss rate of 50 per thousand per year, based on British experience in this war was used. |

incurred on the Eastern Fronts. From the invasion of France to the end of 1944, it is estimated that the German Army lost 840,000 prisoners and suffered 205,000 other permanent battle losses in France and Italy and 315,000 prisoners and 660,000 other permanent battle losses on the Eastern Fronts.

Since an estimated 330,000 of the losses from 1939 to 31 December 1944 were suffered by foreigners serving in the German Armed Forces and 94,000 of the non-battle deaths can be imputed to normal mortality, the net drain on the German manpower pool up to the end of 1944 is estimated at 7,985,000 men.

German losses in killed and missing dead alone are almost twice those suffered in these categories in the last war. It is estimated that the number of killed and missing dead in the German Armed Forces through December 1944 was 4,410,000. In the last war the German Armed Forces suffered 2,036,897 killed and missing dead and that portion of the former Austro-Hungarian Empire now incorporated into Germany suffered an additional 215,000 losses in the same categories.

Losses in prisoners to the end of December are also almost twice those of the last war. In the last war the Germans lost 906,390 prisoners. By the end of December 1944 the Western Allies alone had taken 1,062,000 prisoners and it is estimated that the Soviet armies had captured a minimum of 690,000 prisoners.

## X. AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, JUNE 1941 THROUGH AUGUST 1944

Table 9 on the following page presents estimates of relative age-distribution of dead in the German Ground Forces, June 1941 through August 1944, and German male population before war losses, by single year of age.

The age-distribution of dead in the German Ground Forces indicates that over the period as a whole the Germans have been fairly prodigal with their young men, despite the greatly increased use of older men during 1944. Some 73 percent of all the dead would have been in the age-group 19-32, inclusive, in 1943, i.e., were 16-29 in 1941. Only 5 percent of total dead were over age 38 and, therefore, outside the combat age-group. The distribution of killed indicates that some, though not many, Germans have been used in the front lines at as young an age as 17 years. Troops one year older have sustained more casualties, and during one year of availability as combat troops have sustained more losses relative to their total numbers than troops 38 years old in 1944, who have been available for combat duty during the whole three and one-quarter years covered by the distribution.

Both absolutely and relative to the number of men of each age in the total male population, the 23- and 24-year-olds are the two most important, or most used classes. This relative rate of utilization is shown in Table 8, column 3,

(Text continued on p. 23) 

Table 9. RELATIVE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, JUNE 1941 THROUGH AUGUST 1944, AND GERMAN MALE POPULATION BEFORE WAR LOSSES, BY SINGLE YEAR OF AGE

| Age in 1944 | (1) Age-distribution of killed, June 1944 through August 1944 (In percent) | (2) Normal male population 1 January 1945 (In thousands) | (3) Index of relative number killed per age-class[a] |
|---|---|---|---|
| 16 | .01 | 610 | .3 |
| 17 | .21 | 598 | 7.6 |
| 18 | 1.46 | 624 | 50.8 |
| 19 | 3.28 | 654 | 108.9 |
| 20 | 5.87 | 646 | 197.3 |
| 21 | 6.33 | 649 | 211.8 |
| 22 | 6.53 | 679 | 208.8 |
| 23 | 7.41 | 724 | 222.3 |
| 24 | 7.90 | 736 | 233.1 |
| 25 | 4.87 | 561 | 188.5 |
| 26 | 3.28 | 369 | 193.0 |
| 27 | 3.12 | 357 | 189.8 |
| 28 | 3.58 | 394 | 197.3 |
| 29 | 4.81 | 525 | 199.0 |
| 30 | 5.54 | 670 | 179.6 |
| 31 | 5.26 | 689 | 165.8 |
| 32 | 5.07 | 712 | 154.6 |
| 33 | 4.72 | 681 | 150.5 |
| 34 | 4.55 | 711 | 139.0 |
| 35 | 4.04 | 724 | 121.2 |
| 36 | 3.25 | 724 | 97.5 |
| 37 | 2.24 | 711 | 68.4 |
| 38 | 1.68 | 707 | 51.6 |
| 39 | .91 | 677 | 29.2 |
| 40 | .74 | 681 | 23.6 |
| 41 | .63 | 660 | 20.7 |
| 42 | .58 | 676 | 18.6 |
| 43 | .57 | 658 | 18.8 |
| 44 | .41 | 628 | 14.2 |
| 45 | .26 | 584 | 9.7 |
| 46 | .24 | 545 | 9.6 |
| 47 | .20 | 509 | 8.5 |
| 48 | .09 | 485 | 4.0 |
| 49 | .07 | 451 | 3.4 |
| 50 | .06 | 431 | 3.0 |
| Over 50 | .24 | | |
| Total | 100.01 | | |

a. Index of ratio of percentage of total killed to number of males in each class, with the average of all their ratios as the base.

NOTES TO TABLE 9

Column

1 The age-distribution is derived from obituaries obtained from a sample of 70-odd German newspapers. Data are available for each age-class for each month, but in order to secure more stable estimates for each age-class several months were grouped. Estimates by single-year age-classes were prepared for 13 sub-periods in the total period June 1941 through August 1944 (See Table 9). The age-distribution for the thirteen periods were then combined with weights according to an estimate of the relative number killed in each period.

Due to a very strong income and social bias, the officer class is highly over-represented in obituary notices. For this reason rank weights must be introduced before an age-distribution for the whole army can be computed. Each of the three ranks was weighted in accordance with its relative frequency in the present German Army and its relative death rate as derived from German experience in the last war. The ranks were weighted so that there would be 16.8 enlisted men and 4.4 non-commissioned officers for each officer.

In order to follow the development of each particular age-class over the period covered, the age of those who died in 1943 was increased by one year, i.e., an individual who was killed at age 18 in any month of 1943 was classified as 19 in 1944; the age of those who died in 1942 was increased by two years, i.e., an individual who was killed at age 18 in any month of 1942 was classified as 20 in 1944; and the age of those who died in 1941 was increased by three years, i.e., an individual who was killed at age 18 in any month of 1941 was classified as 21 in 1944.

2 Projection of census data.

through an index of the relationship between deaths and the total number of German males in each age-group. Since the index has only one mode, it is to be noted that the sole reason for the bimodality in the age-distribution of deaths is the bimodality in the age distribution of the German male population, this last a result of the birth famine during the last war.

## XI. CHANGE OVER TIME IN THE RELATIVE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, 22 JUNE 1941 THROUGH 31 AUGUST 1944

Table 10 on the following page presents estimates of relative age-distribution of dead in the German Ground Forces for thirteen quarters in the period June 1941 through August 1944.

A comparison of the age-distribution of deaths in the German Ground Forces for thirteen quarters in the total period 22 June 1941 to 31 August 1944 reveals a very sharp decline over the period in the proportion of total deaths falling in the age-groups which were 20-30, inclusive, in 1941, compensated for by (1) a slight rise in deaths in the age-groups which were 31 to 35, inclusive, in 1941; (2) a relatively large increase, first observable in 1944, in the number of deaths of soldiers who were over 35 in 1941; (3) the normal expected increase in deaths in those aged 17 to 19 in 1941 as these soldiers grew older and were more used; and (4) greatly

(Text continued on p. 26) 

Due to its large size, the following document has been filmed in segments. The order of the segments is as follows: left to right, top to bottom.

Table 10. RELATIVE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES FOR THIRTEEN QUARTERS[a] IN THE PERIOD JUNE 1941 THROUGH AUGUST 1944

| Age at Death | June-September 1941 I | October-December 1941 II | January-March 1942 III | April-June 1942 IV | July-September 1942 V | October-December 1942 VI | January-March 1943 VII | April-June 1943 VIII | July-September 1943 IX | October-December 1943 X | January-March 1944 XI | April-June 1944 XII | July-August 1944 XIII |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | | | | | | | | | | | | |
| 17 | .2 | .4 | .2 | .2 | .2 | .2 | .2 | .2 | .1 | .2 | .6 | 1.0 | 1.0 |
| 18 | 1.7 | 2.4 | 1.4 | 1.8 | 2.2 | 2.3 | 3.1 | 4.1 | 3.1 | 3.2 | 5.1 | 6.0 | 6.5 |
| 19 | 4.9 | 3.7 | 2.7 | 6.0 | 9.7 | 11.1 | 8.9 | 10.7 | 13.1 | 12.2 | 10.2 | 9.2 | 10.1 |
| 20 | 9.2 | 11.5 | 7.7 | 9.4 | 11.0 | 10.4 | 8.5 | 8.8 | 9.2 | 8.8 | 7.8 | 7.4 | 7.1 |
| 21 | 14.2 | 13.8 | 9.2 | 9.5 | 8.5 | 8.0 | 7.5 | 6.3 | 6.6 | 6.1 | 5.9 | 5.3 | 5.4 |
| 22 | 7.4 | 9.1 | 9.1 | 8.9 | 7.6 | 7.4 | 7.3 | 5.8 | 6.4 | 5.6 | 5.5 | 4.8 | 4.6 |
| 23 | 5.1 | 5.2 | 5.1 | 5.3 | 5.6 | 5.6 | 6.0 | 5.9 | 6.5 | 5.6 | 5.7 | 5.1 | 5.0 |
| 24 | 5.4 | 4.2 | 3.6 | 3.5 | 3.1 | 3.2 | 3.4 | 3.5 | 4.3 | 4.6 | 4.9 | 4.6 | 5.3 |
| 25 | 6.2 | 5.6 | 4.2 | 3.4 | 3.4 | 2.8 | 2.7 | 2.6 | 2.8 | 2.6 | 2.9 | 2.6 | 2.8 |
| 26 | 7.0 | 5.6 | 4.8 | 4.3 | 3.5 | 3.2 | 2.8 | 2.4 | 2.3 | 2.2 | 2.4 | 2.1 | 2.4 |
| 27 | 6.5 | 6.3 | 6.0 | 6.1 | 4.9 | 4.1 | 3.2 | 2.5 | 3.0 | 2.5 | 2.2 | 2.2 | 2.3 |
| 28 | 6.1 | 5.8 | 7.3 | 7.6 | 6.0 | 5.2 | 5.0 | 4.1 | 4.1 | 3.2 | 2.7 | 2.4 | 2.0 |
| 29 | 5.4 | 5.5 | 6.8 | 5.7 | 5.8 | 4.6 | 5.1 | 5.0 | 4.8 | 4.4 | 4.1 | 4.0 | 3.4 |
| 30 | 5.4 | 4.5 | 5.9 | 5.3 | 5.8 | 5.4 | 5.8 | 4.6 | 4.8 | 4.3 | 4.7 | 4.5 | 4.6 |
| 31 | 4.7 | 4.1 | 6.1 | 4.8 | 4.5 | 4.6 | 5.1 | 4.8 | 4.2 | 4.6 | 4.0 | 3.7 | 3.5 |
| 32 | 3.3 | 3.1 | 4.6 | 4.3 | 5.1 | 4.8 | 5.6 | 4.5 | 4.8 | 4.5 | 4.3 | 4.7 | 4.6 |
| 33 | 2.1 | 2.1 | 4.0 | 3.5 | 4.2 | 4.4 | 5.0 | 4.4 | 4.2 | 4.2 | 4.0 | 3.8 | 3.6 |
| 34 | 1.3 | 1.6 | 2.6 | 2.6 | 3.4 | 4.2 | 5.1 | 4.2 | 4.4 | 4.3 | 4.3 | 3.8 | 4.0 |
| 35 | .8 | 1.3 | 1.8 | 1.6 | 1.1 | 1.9 | 2.8 | 3.5 | 3.8 | 4.4 | 4.2 | 4.5 | 3.6 |
| 36 | .6 | 1.0 | 1.6 | 1.3 | 1.1 | 1.5 | 1.5 | 2.7 | 2.4 | 3.8 | 4.0 | 3.8 | 3.3 |
| 37 | .4 | .5 | 1.2 | .9 | .5 | 1.1 | 1.1 | 1.7 | 1.8 | 3.2 | 3.6 | 3.7 | 3.0 |
| 38 | .3 | .6 | .4 | .8 | .5 | .9 | .8 | 1.3 | .6 | 1.1 | 1.9 | 2.4 | 2.5 |
| 39 | .4 | .4 | .7 | .8 | .5 | .5 | .6 | 1.0 | .5 | .8 | .9 | 1.3 | 1.3 |
| 40 | .4 | .4 | .5 | .5 | .4 | .6 | .7 | 1.0 | .5 | .7 | .8 | 1.4 | 1.8 |
| 41 | .3 | .1 | .6 | .5 | .3 | .4 | .4 | .8 | .4 | .7 | .6 | 1.1 | 1.1 |
| 42 | .2 | .0 | .6 | .4 | .3 | .4 | .6 | 1.0 | .3 | .7 | .8 | 1.0 | .9 |
| 43 | .1 | .2 | .3 | .2 | .2 | .2 | .4 | .6 | .3 | .5 | .6 | .9 | .8 |
| 44 | .1 | .3 | .3 | .4 | .1 | .2 | .2 | .5 | .2 | .3 | .4 | .8 | .9 |
| 45 | .1 | .1 | .3 | .2 | .1 | .2 | .2 | .3 | .2 | .2 | .3 | .5 | .7 |
| 46 | | | | | | .1 | .2 | .2 | .1 | .1 | .2 | .5 | .5 |
| 47 | | | | | | .1 | .1 | .2 | .1 | .1 | .1 | .2 | .5 |
| 48 | .2 | .4 | .5 | .4 | .2 | .1 | .0 | .2 | .0 | .1 | .0 | .1 | .2 |
| 49 | | | | | | .0 | .0 | .1 | .0 | .1 | .0 | .1 | .1 |
| 50 | | | | | | .0 | .1 | .1 | .0 | .0 | .0 | .1 | .1 |
| Over 50 | | | | | | .2 | .2 | .4 | .1 | .2 | .1 | .3 | .4 |
| Total | 100.0 | 100.0 | 100.1 | 100.2 | 99.8 | 99.9 | 100.2 | 100.0 | 100.0 | 100.1 | 99.8 | 99.9 | 99.9 |

a. The first period includes four months and the last two.

NOTES TO TABLE 10

Age distribution derived as explained above in notes to Table 9.

The number of observations available varied from 3,168 for the period October to December 1941, when the newspaper coverage was fairly poor, to 23,078 in the period July to September 1943, when newspaper coverage was very good.

increased deaths among those who were 18 and 19 in 1944. This last change is indicated by the shift in the modal class from age 21 in 1941 to age 19 in 1943 and 1944. It indicates the progressive resort of the Germans to younger soldiers, after heavy casualties had reduced the ranks of older age-groups. Now that this process has reached the 18-year and 19-year age-groups, the Germans are turning to extremely young or much older, and in any case progressively less efficient, age-groups.